

# HEDYCHIUM RAOII PAL ET GIRI - A NEW SPECIES OF ZINGIBERACEAE FROM ARUNACHAL PRADESH, INDIA<sup>1</sup>

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(With five text-figures)

A new species of the genus *Hedychium* Koen. is described below with illustrations. A tabulated key for the allied species is also appended.

*Hedychium raoii* Pal et Giri, sp. nov.  
(Figs. 1-5).

Proxime affinis *H. robusto* A.S.Rao et P.K. Hajra sed foliis sessilibus, infra adpresse pilosa, 3-4 floribus inclusis in bractea, calyce divisa ad medium vel infra medium, corollae tubis bracteis aequilongis vel eis 2-4 mm brevioribus, staminodiis lateralibus anguste lanceolatis, labio anguste obovato vel oblanceolato, apice penitus bilobo.

**Typus:** Holotypus lectus a G.D. Pal ad locum Arunachal, Inferior Subansiri, Yazali - Kimin Road, 20 km e Yazali, 700 m, die 20.ix.1983, sub numero 1254A et positus in CAL. Isotypus 1254B in Cal. Isotypus 1254C in ARUN.

Perennial rhizomatous herbs, 1.25-1.5 m tall. **Rhizomes:** tuberous, tangled, covered with scales, white or pinkish white inside, aromatic, 3-4.5 cm in diameter, segments subcylindric, 1-2 cm apart, ca 2.5 cm in diameter; roots stout, fibrous. **Leaves:** several, sessile, lanceolate to oblong-lanceolate, (40-) 45-55 (-62) cm long, (6-) 7.5-9 (-10) cm broad, base acute to subacute, apex acuminate to long acuminate, margins entire; subcoriaceous, glabrous above, white pubescent throughout beneath, hairs dense along the midrib; turning dull green above and greyish-brown below on drying; midrib prominent beneath, secondary nerves more or less prominent on both surfaces; ligules membranous or papery, oblong, 2-3.5 x 1-1.5 cm, sometimes bilobed, prominently nerved, pubescent without,

greenish. **Spikes:** stalked, stalks 4-6 cm long, ridged, sparsely hairy, greenish; rachis 25-40 cm long, lax-flowered, ridged, sparsely pubescent, green; lowermost bracts empty, oblong-acuminate, 4-8 x 0.8-1.2 cm; floral bracts spirally arranged 20-30 per spike, lower strongly convolute, upper loosely convolute or nearly flat, oblong, (3.8-) 4-4.5 (-5) cm long and (1-) 1.2-1.5 (-1.8) cm broad, apex acute or subrounded, base clasping, margin membranous, sparsely to densely pubescent without, particularly towards base and apex, becoming glabrate with age, green to pale green, each bract enclosing 3-4 successively opening flowers; bracteoles as long as or 1-2 mm longer or shorter than bracts, appressed whitish pilose without, margin scarious, pale green or whitish green. **Flowers:** white, fragrant; calyx tubular, as long as or slightly longer than bracts, 4.7-5 cm long, split on one side upto below the middle, apex bifid, sparsely pubescent without, hairs more at bifid apex, margin ciliate, nerves prominent, membranous, greenish-white; corolla-tube narrow cylindric, as long as or 2-4 mm shorter than bracts, 3.8 - 4.5 cm long, 1.75-2.25 mm diam., glabrous, white; lobes linear, straight or twisted, 3.5-4.5 cm long, 1.25-1.5 mm broad, anterior lobe usually longer than the lateral lobes; lateral staminodes narrowly lanceolate, 3.5-4.2 x 0.4-0.6 cm, erect or reflexed, apex obliquely acute, margin subentire or repand, pinnately veined; lip narrowly obovate or oblanceolate, 4.5-4.7 x 2-2.5 cm, spreading or shallowly concave, margin wavy, distinctly clawed, bilobed, sinus 1-1.2 cm deep, lobes triangular or ovate-acute, parallel-veined; stamens 2-2.2 cm, shorter than

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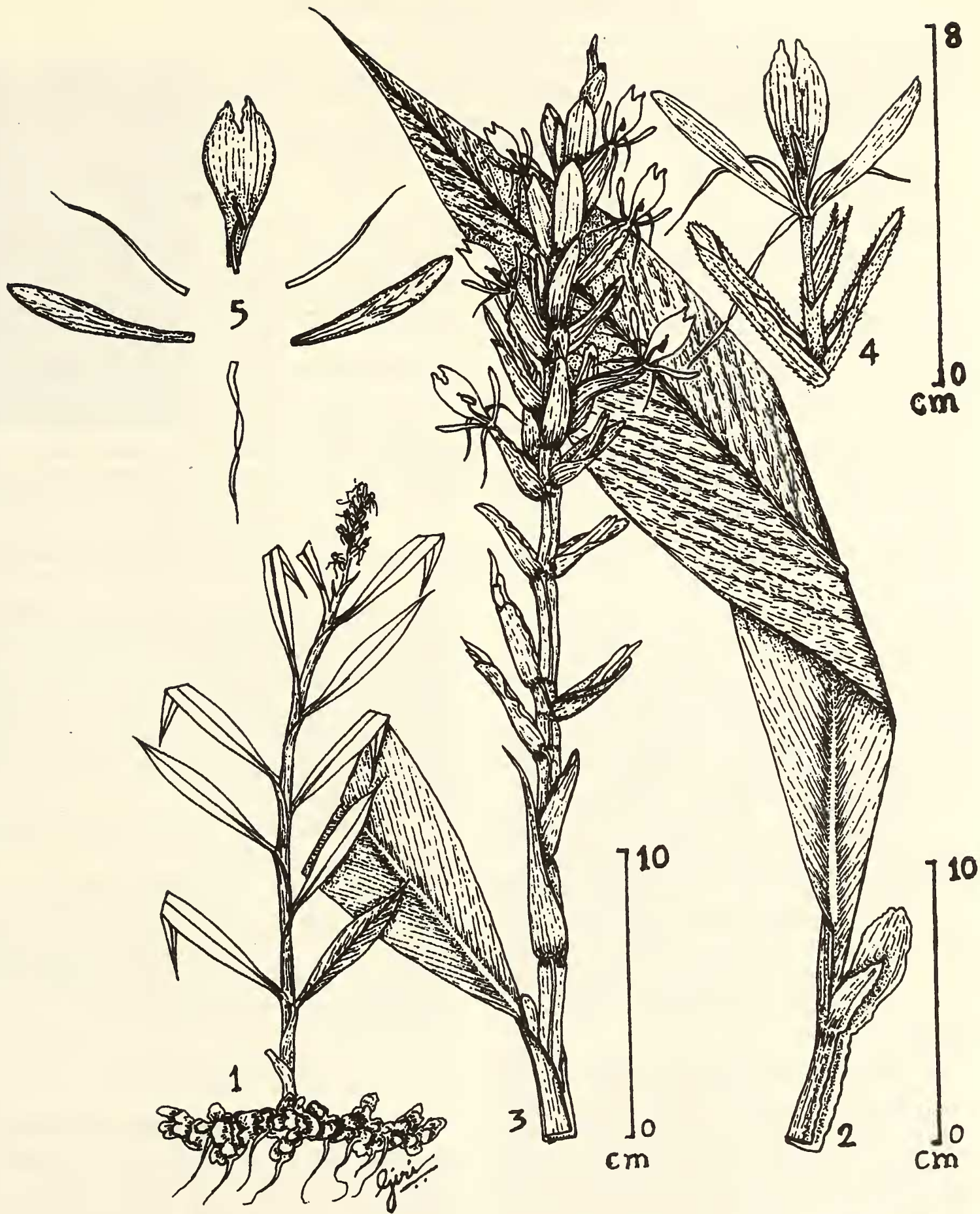


Fig. 1-5: *Hedychium raoii* G.D. Pal & G.S. Giri sp. nov. 1. Habit (diagrammatic); 2. Leaf; 3. Inflorescence; 4. Flower with bracts and bracteoles; 5. Perigone with stamen.

TABLE 1

KEY TO THE SPECIES OF *HEDYCHIUM* KOEN.

<i>H. dekianum</i> A.S. Rao et D.M. Verma	<i>H. raoii</i> G.D. Pal et G.S. Giri	<i>H. robustum</i> A.S. Rao et P.K. Hajra
1. Leaves sessile, upper surface glabrous, lower surface appressed silky hairy.	Leaves sessile, upper surface glabrous, lower surface appressed silky hairy throughout, hairs more dense along midrib.	Leaves petiolate, upper surface hairy, lower surface hairy along nerves only.
2. Spikes 10-17 cm long, condensed, containing 25-35 bracts.	Spikes 30-40 cm long, lax, containing 20-30 bracts.	Spikes 20-32 cm long, lax, containing 12-22 bracts.
3. Bracts each enclosing 3-9 flowers.	Bracts each enclosing 3-4 flowers.	Bracts each enclosing 9-11 flowers.
4. Calyx slightly shorter or longer than bracts, deeply split.	Calyx as long as or slightly shorter than bracts, split at or below the middle.	Calyx longer than bracts, split much above the middle.
5. Corolla-tubes exceeding the bracts by 1.2-2.3 cm	Corolla-tubes as long as or 0.2-0.4 cm shorter than bracts.	Corolla-tubes exceeding the bracts by 1-2.5 cm.
6. Lateral staminodes spatulate, 2.5-3.7 x 1-1.6 cm	Lateral staminodes narrowly lanceolate 3.5-4.2 x 0.4-0.6 cm.	Lateral staminodes spatulate, 4.5 x 1.5 cm
7. Lip suborbicular, 3-3.7 x 2.3-3.4 cm, shortly clawed, bilobed, sinus 1.5-2 cm deep, lobes suborbicular, pale yellow blotches at base.	Lip narrowly obovate or oblanceolate, 4.5-4.7 x 2-2.2 cm, distinctly clawed, bilobed, sinus 1-1.2 cm deep, lobes ovate-acute, blotch absent.	Lip suborbicular or broadly spatulate, 4.5-5 x 3.5-4 cm, shortly clawed, rounded or truncate but not bilobed, pale yellow blotch at the middle.
8. Stamens 1-2 cm longer than the lip.	Stamens 2-2.2 cm shorter than the lip.	Stamens 1.5-2 cm shorter than the lip.

the lip, filaments 1.2-1.5 cm long, deeply channelled enclosing the style; anthers linear, 0.8-1 cm long, pink; ovary subglobose, about 2 mm in diameter, trigonous, glabrous; style 6.3-6.8 cm long, glabrous; stigma turbinate, papillose, green. **Capsules:** not seen.

**Flowering:** September - October.

**Ecology:** Grows in moist but open areas near streams or along moist forest fringes.

**Distribution:** INDIA: Arunachal Pradesh: Lower Subansiri dist., Yazali-Kimin road, 20 km from Yazali towards Kimin, 700 m, 20.ix.1983, G.D. Pal 1254A (Holotype-CAL). Isotypes: Ibid. G.D. Pal 1254B (CAL); Ibid. G.D. Pal 1254C (ARUN).

**Note:** The new species is closely allied to *Hedychium robustum* A.S. Rao & P.K. Hajra, but can be distinguished by its sessile leaves throughout appressed hairy beneath, bracts enclosing 3-4 flowers, calyx split at or below the middle, corolla-tube as long as or 2-4 mm shorter than the bracts, lateral staminodes narrowly lanceolate and lip narrowly obovate or

oblanceolate with deeply bilobed apex. The new species also comes closer to *H. dekianum* A.S. Rao & D.M. Verma but can be easily recognised by its long lax spikes, narrowly lanceolate staminodes, oblanceolate or narrowly obovate lip and smaller stamens, which are always 2.2-2.7 cm shorter than the lip.

A tabulated key for the three species mentioned is given above.

**Etymology:** The specific epithet of this beautiful taxon is given in memory of the late Dr. A.S. Rao, Joint Director, Botanical Survey of India in honour of his valuable contribution to the flora of North-Eastern India.

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